Prof. Dr. H. Muhammad, M.Pd., M.S. dkk

HO RIZ ON

ILMU

Reorientasi Paradigmatik Integrasi Keilmuan

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

*Dengan nama Allah Yang Maha Pengasih
lagi Maha Penyayang*

"Buku adalah sebaik-baik teman duduk
sepanjang masa."

~ al-Mutanabbi ~

HORIZON ILMU:
Reorientasi Paradigmatik Integrasi Keilmuan

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Pengantar

HORIZON ILMU SEBUAH DISTINGTIF KEILMUAN DALAM TRIDHARMA PERGURUAN TINGGI UIN MATARAM

Alhamdulillah atas uluran nikmat dan karunia Allah SWT yang tercurahkan kepada insan akademik yang selalu mendedikasikan diri untuk keilmuan dan kemanusiaan. Shalawat dan salam terlimpah curahkan kepada manusia agung, manusia visioner, penyebar ilmu dan peradaban kemanusiaan, sang revolusioner Nabi Muhammad.

Buku Horizon Ilmu yang di hadapan para pembaca merupakan ijtihad akademik sivitas akademika UIN Mataram yang telah dirintis diawal obsesi para pemimpin lembaga pendidikan tinggi yang bernama Institut Agama Islam Negeri [IAIN] Mataram yang bekerja cerdas, keras, tuntas, dan ikhlas sehingga terwujud mimpi besar tranformasi kelembagaan dari Institut menuju Universitas. Transformasi kelembagaan ini meniscayakan adanya distingsi yang jelas antarlembaga perguruan tinggi dengan lembaga baru, yang kemudian menjadi Universitas Islam Negeri (UIN) Mataram. Perubahan nama kelembagaan inilah yang melatarbelakangi lahirnya paradigmatik keilmuan akademik UIN Mataram yang familiar disebut dengan HORIZON ILMU.

Konsep keilmuan UIN Mataram dikenal dengan istilah "Horizon Ilmu" yang memiliki turunan integrasi, interkoneksi, dan internalisasi. Berangkat dari filosofi horizon ilmu ini berupaya untuk mengembangkan dan mengkombinasikan antarilmu umum dengan ilmu keislaman. Tujuan ini tentu untuk menjawab problematika keilmuan di lingkungan PTKIN yang selama ini terjadi dikotomi antara ilmu umum dan ilmu keislaman. Pemisahan ini sudah lama terjadi sehingga memunculkan problem epistemologis bagaimana mendamaikan dua kutub keilmuan yang terpisah. Dalam upaya untuk mendamaikan dua kutub keilmuan itu tentu memerlukan epistemologis serta metodologis yang jelas sehingga menemukan titik temu. Horizon ilmu sebagai jawaban atas problem perpecahan ilmu umum dan keislaman di lingkungan PTKIN ini juga tidak mudah untuk diuraikan, karena harus menjawab beberapa problem epistemologis keilmuan. Maka dari itu, untuk melihat muara dari Horizon Ilmu UIN Mataram ini perlu melihat beberapa problem epistemologis keilmuan agar jelas *standing position* dari Horizon Ilmu sebagai suatu mazhab keilmuan UIN Mataram. Berkaitan dengan dikotomi bangunan keilmuan yang terjadi maka perlu proses integralistik dan saling melengkapi karena suatu kewajaran dengan kurun waktu yang sangat lama telah terjadi dikotomi keilmuan. Oleh karena itu, perlunya pandangan baru untuk menghubungkannya.

M. Amin Abdullah melihat tiga problem yang berkaitan dengan *Religious knowledge, Islamic thought,* dan *Islamic studies* seolah-olah ada keterputusan *missinglink* di antara ketiganya yang seolah-olah tidak bertemu, tidak saling berdialog, mengenal, dan mengambil manfaat masukan di antara kluster keilmuan. Ketiganya masih berdiri sendiri secara ekslusif. Masing-masing merasa cukup dengan dirinya sendiri, dan tidak memerlukan bantuan dari yang lain. Lebih jauh M. Amin Abdullah mengatakan seharusnya ketiganya harus terjalin integrasi-interkoneksi yang dialogis dan negosiatif. Masing-masing kluster tidak hanya secara pasif mengambil manfaat dari kluster yang lain, tetapi juga secara

aktif, cair, dan dapat memberi masukan, kritikan, kepada kluster yang lain. Dengan cara ini pengembangan ilmu umum dan keilmuan Islam dapat berdampak bagi keilmuan global.

Buku yang ada di hadapan pembaca ini mengambil tema, reorientasi paradigmatik dalam makna bahwa konsepsi seputar horizon ilmu ini diharapkan menjadi suatu sistem yang hidup di tengah-tengah komunitas akademik UIN Mataram dan menjadi *living system* yang mewarnai sepak terjang tridharma perguruan tinggi seluruh sivitas akademika UIN Mataram.

Living system sebagai identitas pembelajaran UIN Mataram ini juga memiliki prinsip otonomi penuh. Jaringan antarsemua komponen selalu dalam batas tertentu, dimana semua jaringan yang ada dalam pembelajaran ini bukan saja melahirkan organisasi akan tetapi organisasi tersebut memiliki kemampuan yang luar biasa; karena pembelajaran tersebut mampu memerbaharui dan memproduksi komponen-komponen baru yang sama dan dapat berfungsi di UIN Mataram. Prinsip otonomi yang ada di UIN Mataram ini mengandaikan adanya mekanisme internal sistem hidup *(living system)* untuk mengkonservasi keberlangsungan keberadaan sistem, atau untuk selalu memerbaharui.

Sistem hidup yang menjadi identitas pembelajaran UIN Mataram selalu memiliki kemampuan untuk memproduksi diri dalam mempertahankan organisasi dan mengada di dalamnya. Pembelajaran di UIN Mataram ini selalu berjalan dalam ranah sirkularitas, sebagai prinsip kerja sistem, karena tujuannya adalah untuk membangun relasi dan kesatuan, tujuan kesatuan ini untuk menjamin keberlangsungan relasi antar komponen. Orientasi relasi antar komponen adalah sistem dan orientasi sistem adalah relasi antar komponen.

Seperti yang dikatakan di atas bahwa *living system* yang berada di UIN Mataram sebagai identitas pembelajaran yang selalu berjalan sirkuler. Oleh karenanya, *living system* memiliki dua ranah operasional, yaitu ranah internal yang bersifat fisiologis, di mana prinsip *autopoiesis* (memperbaharui diri) dalam jaringan tertutup bekerja dengan optimal, dan ranah

eksternalnya adalah bersifat *behavioral* dimana perilaku sistem muncul akibat interaksi secara berulang antara organisme dan medium. Ranah operasi yang pertama merupakan syarat eksistensi dari *living system*, sedangkan ranah kedua merupakan cara organisme sebagai entitas keutuhan *(unity)* untuk mendapatkan kesehatan dirinya.

Living system yang menjadi identitas pembelajaran UIN Mataram selalu berjalan sisrkularitas, karena sistem individu-individu yang terlibat dalam sistem pembelajaran tersebut saling mengkonversi nilai-nilai kebaikan dan keutuhan. Keutuhan sistem sosial bekerja didasarkan atas prinsip sirkularitas, karena sistem individu berpengaruh terhadap sistem sosial, sistem sosial juga mempengaruhi sistem individu, keduanya saling tergantung pada yang lainnya, karena ketergantungan dan saling mempengaruhi ini tercipta pembelajaran yang hidup. Sistem sosial dalam pembelajaran tersebut saling mempengaruhi antara sistem kepribadian dan sistem sosial. Oleh karena itu, keduanya saling mempengaruhi satu sama lain dan saling bergantung. Antara dosen dan mahasiswa serta sistem sosial yang hidup saling mempengaruhi dan melahirkan *feedback* untuk saling berterima dan saling membangun perubahan bersama.

Akhirnya, atas nama Rektor UIN Mataram dan seluruh sivitas akademika UIN Mataram, menghaturkan banyak terima kasih atas terbitnya buku Horizon Ilmu yang keempat, yang ditulis oleh para guru besar/profesor UIN Mataram, yang tentu ramuan akademik dan racikan metodologis dalam buku ini sangatlah sistematis dan tentu fungsional. Selamat membaca.

Mataram, November 2022
Rektor,

ttd.

Prof. Dr. H. Masnun, M.Ag.

DAFTAR ISI

TECHNOLOGY AND ONLINE LEARNING DURING PANDEMIC COVID-19

Prof. Dr. H. Muhammad, M.Pd., M.S.

Introduction

The World Health Organization (WHO) has declared the corona virus disease to be a pandemic, with the virus' ability to spread to the entire world population, including Indonesia. According to data on the spread of Covid 19 from the Indonesian government's official website (covid.go.id) dated 11 December 2021, 227 countries have been infected by the corona virus, and 5.285.888 people have died. There were 4.258.752 positive cases in Indonesia, with 143.923 people dying. Based on this information, it is clear that the Covid-19 still exists and is extremely dangerous.

The corona virus outbreak poses difficulties for educational institutions, particularly universities. To combat Covid-19, the government has banned gatherings and physical separation, as well as requiring people to wear masks and always wash their hands. The government has prohibited universities from holding face-to-face (conventional) lectures and has ordered them to hold lectures or learn online through the Ministry of Education and Culture (Kemendikbud Dikti Circular Letter No. 1 of 2020). Universities are being encouraged to organize online learning (Firman & Rahayu, 2020).

Many universities, including the University of Indonesia (UI), responded quickly to government instructions by issuing a letter of instruction on preventing the spread of the corona virus disease (Covid-19) within the University of Indonesia. There are ten points in the circular, one of which is a recommendation to implement online learning (Yandwiputra, 2020). According to Jamaluddin et al. (2020), online learning has its own set of advantages, disadvantages, and challenges. Then, all universities in Indonesia implemented the instruction of the government at the end of 2020.

Due to the obligation to shift the offline learning to online, all components in the teaching and learning activities should be prepared. One of them is teacher, he/she must design scenarios that are able to prevent physical contact between students and lecturers and students and students (Firman& Rahayu, 2020) and ready for conducting online class. According to Milman (2015) the use of technology enables students and teachers to carry out the learning process even though they are in different places.

Technology is the result of scientific advancements in the field of education. As a result, education should use technology to aid in the implementation of learning. This is consistent with the idea of Tondelur et al. (in Selwyn, 2011), who state that digital technology is now being used in educational institutions to support learning, either as an information tool (i.e. a means of accessing information) or as a learning tool (i.e. as a means of supporting learning activities and assignments).

Technology, specifically online learning, can be used as a learning crisis mediator during the Covid-19 pandemic. Moore, et al. (2011) define online learning as learning that takes advantage of the internet network's accessibility, connectivity, flexibility, and ability to bring up various types of learning interactions. According to Zhang et al. (2004), the use of the internet and multimedia technology can change the way knowledge is conveyed and can be an alternative to learning in traditional classrooms. Online learning is learning that uses the internet to bring students and teachers together for learning interactions (Kuntarto, 2017).

As previously stated, several factors must be in place to support online learning. To begin, online learning necessitates the availability of mobile devices such as smartphones or Android phones, laptops, computers, tablets, and iPhones that can be used to access information at any time and from any location (Gikas & Grant, 2013). Second, educational institutions must provide online learning training for both teachers and students (Darmalaksana, 2020). Third, educational institutions where students study must provide training on the demands for the use of technology in education (He, et al., 2014). This includes the significance of technology literacy as one of the

skills required in the Industrial Revolution 4.0 era (Pangondian, et al., 2019).

According to the findings of previous studies on the use of technology in learning, technology offers several benefits. First, technology assists educational institutions in achieving their distance learning objectives (Korucu & Alkan, 2011). Second, technology allows teachers to create online classrooms using platforms like Google Classroom, Edmodo, and Schoology (Enriquez, 2014; Sicat, 2015), as well as instant messaging apps like WhatsApp (So, 2016). Third, by utilizing social media platforms such as Facebook and Instagram, teachers and students can make learning more engaging (Kumar & Nanda, 2018). Fourth, technology enables students to connect with learning resources (databases, experts/instructors, libraries) that are physically separated or even far apart but can communicate, interact, or collaborate with each other (directly/synchronously and indirectly/asynchronously). Online learning is a type of distance learning that makes use of telecommunications and information technology, such as the internet, CD-ROOM, and videoconferencing (Molinda, 2005).

Previously, many studies related to the role of technology in education had been carried out, one of them by Andri (2017), who explained that technology plays a very important role in improving the quality of education. However, not many have discussed more comprehensively the online learning component with the technology used, with a description of the learning models, and other components related to the Covid-19 pandemic. Based on the discussion that has been described previously which includes several variables such as the learning situation during the Covid-19 pandemic, the necessity to move from offline learning to online and the use of technology to mediate crisis situations in learning, this

research article aims to explain the relationship between the three variables theoretically in detail.

Method

The descriptive-analytical literature method was used in this study. According to Sugiono (2009), descriptive-analytical is a method that describes an object under study using data or samples collected without analyzing and drawing public conclusions. Meanwhile, according to Bungin (2008), one of the data collection methods used in social research methodologies to track event record data is the literature method. The current study's literatureswere drawn from articles, books, and online journals related to the study's title. Defining the scope of the topic to be reviewed, identifying relevant sources, reviewing literature, writing literature, and applying literature to the study to be conducted are all steps taken in this literature review.

Findings and Discussion

The objective of the present study was about to explain the relationship between the three study's variables theoretically. The variables were the learning situation during the Covid-19 pandemic, the necessity to move from offline learning to online, and the use of technology to mediate crisis situations in learning. The findings and discussion of this study were presented in themes.

1. **Learning during Pandemic Covid-19**

Before the Covid-19 attacked Indonesia, the online learning was indeed promoted by the government and several education systems, especially universities and schools in the capital city which had implemented an online-based learning system. However, when the Covid-19

came to Indonesia, the government was forced to establish policy that all schools were required to conduct online teaching and learning activities. This policy was taken by the government as an effort to prevent the increasing distribution of positive Covid-19 cases on a massive scale, which was certainly troubling the Indonesian people (Syaharuddin, 2020). Reflecting the implementation of this policy, of course, the inequality in the quality of education in Indonesia has been the main obstacle to implementthis policy. It is because the readiness of students who study in urban areas is very different from that of students who study in remote areas. The readiness of the students was measured from various aspects including the students' economic background. This readiness influences students' ability to equip themselves with technology.

Technology is one of important things in online learning. Commonly used technologies in learning are smartphones and laptops. However, smartphones/gadgets are the things most commonly used by students than laptops, because they are more practical and have many advanced features (Susantoet al., 2019). Not only the gadgets, most teachers and students also use several interesting digital platforms which help greatly to increase the effectiveness of student learning during online learning in pandemicCovid-19 situation. Some of these digital platforms are Google Class Room, E-Learning, Edmodo, Zoom, and Google Meet. Some of the most well-known and frequently used platforms are Google Class Room and Google Meet because of the ease of access, a display that is not confusing, and the use of very little quantity of internet data compared to other discussion and video conferencing applications. The use of technology as a source of

information and learning resources has shown positive impactsfor online learning during this pandemic (Abbas, 2019).

2. **Online Learning**

    a. **Definition**

    Online is an abbreviation of a series of words "in the network", which is then interpreted as an activity carried out by utilizing the internet in learning. According to Isman (2017) online learning is the use of the internet network by students in the learning process, where the internet serves as a means of supporting the online learning process.

    b. **Types of Online Learning**

    There are two types of online learning: synchronous and asynchronous. Synchronous Online Learning - In synchronous online learning, both the teacher and the students participate in online learning by streaming video and audio at the same time. In this case, the teacher had previously agreed on the learning time with the students. When students ask questions, teachers can directly interact with them and answer them. Asynchronous (Collaborative) learning allows learners to participate in online learning at their own pace. It means that teachers will be unable to directly respond to questions raised by students at the same time. The flexibility of time is very clear in this case.

    c. **Characteristics of Online Learning**

    Based on the literature study, several concepts were found regarding the characteristics of online learning. Some of these concepts are presented as follows:

According to the Regulation of the Minister of Education and Culture (PERMENDIKBUD) Number 109 Year 2013, the characteristics of online learning are:

- Distance education is a teaching and learning process carried out remotely through the use of various communication media.
- The learning process is carried out electronically (e-learning), which makes use of information and communication technology-based information packages for learning purposes that students can access at any time and from any location.
- Learning resources are teaching materials and various information developed and packaged in forms based on information and communication technology and used in the learning process.
- Distance education has the characteristics of being open, learning, independent, learning thoroughly, using information and communication technology, using other educational technologies, and taking the form of university integrated learning.
- Distance education is open, which means that learning is carried out flexibly in terms of delivery, selection and study program and program completion time, path and type of education without age limit, year of diploma, background in the field of study, registration period, place and method of learning, as well as the evaluation period of learning outcomes.

Tung in Mustofa, et al. (2019) mentionedthe following characteristics of online learning:

- Teaching materials are presented in the form of text, graphics, and various multimedia elements;

- Communication occurs simultaneously and not simultaneously, such as video conferencing, chat rooms, or discussion forums;
- Learning occurs at virtual times and places;
- Various CD-ROM based learning elements can be used to improve learning communication;
- Teaching materials are relatively easy to update;
- Increasing student interaction
- Allowing for formal and informal learning communication;
- Enabling teachers and students to use a wide range of internet-based learning resources.

In addition, Rusma in Herayanti et al. (2017) said that the characteristics of e-learning include:

- Interactivity
- Independence
- Accessibility
- Enrichment

From the explanation of the characteristics of online learning, it can be concluded that the characteristics of online learning are about using electronic media, learning is carried out using the internet, learning can be carried out anytime and anywhere, and online learning is open.

d. **Benefits of Online Learning**

There are several ideas regarding the benefits of implementing online learning. Bilfaqih and Qomarudin (2015) explain some of the benefits of online learning as follows:

- Online learning enables various parties to conduct training to use multimedia efficiently in learning to improve the quality of education
- Online learning enables various parties to hold training of the implementation of online learning to improve the achievement of education
- Online learning enables various parties to share resources for reducing costs to provide education

Furthermore, the advantages of online learning, according to Bates and Wulf in Mustofa et al. (2019), are as follows:

- Increasing the level of learning interaction between students and teachers or instructors (increase interactivity),
- Allowing learning interactions from anywhere and at any time (time and place flexibility),
- Reaching a large number of students (potential to reach a global audience),
- Facilitating the improvement and saving of learning materials (easy updating of content as well as archivable capabilities)

According to Hadisi and Muna (2015), the following are the advantages of online learning:

- There is a high level of learning flexibility. That is, students can access learning materials at any time and on multiple occasions.
- Students can contact the teacher at any time. As a result, students can further solidify their understanding of the learning material.

Based on some of the ideas above, it can be concluded that the benefits of the online learning process include the advancement of technology can improve the quality of education and are able to improve the learning engagement process by increasing interaction, simplifying the learning process as it can be done anywhere and anytime. In addition, online learning facilitates more access to learning materials and is able to reach a wide range of students. According to Rusman (2013), online learning can provide flexibility in accessing learning materials.

e. **Strengths and Weaknesses of Online Learning**

- **Strengths of online learning**

    There are some thoughts on the advantages of online learning. First, Hadisi and Muna (2015) state that the advantages of online learning are as follows:

    - Cost, online learning has the potential to reduce training costs. Students and institutions can save money because there is no need to purchase classroom equipment such as whiteboards, projectors, and stationery.
    - Because students can access lessons whenever they want, the flexibility of online learning time allows them to adjust their study time.
    - The online learning environment's flexibility allows students to access subject matter from any location as long as the computer is connected to the Internet.
    - The flexibility of online learning speed can be adjusted to each student's learning speed.

- The impact of new technology on online learning; thus, students may be interested in trying it; it is also designed with the most up-to-date instructional design to help students understand the content of the lesson better.
- Availability of On-demand online learning can be accessed at any time from various locations with internet access, making it a "pocket book" that can be used to complete tasks or work at any time.

The strengths of online learning according to Seno and Zainal (2019) are:
- The simple log-in process makes it easier for students to start strengths of online learning.
- The material in strengths of online learning has been provided so that it is easily accessible by students.
- The process of collecting assignments and working on assignments is done online through applications or forms which makes it more effective to do and save costs.
- Learning is done anywhere and anytime.

Meanwhile, the strengths of online learning according to Rahmawati et al. (2020) are:
- Saving time in the teaching and learning process
- Lowering travel costs
- Lowering overall education costs (infrastructure, equipment, and books)
- Covering a larger geographical area
- Teaching learners to be more self-sufficient in their knowledge acquisition.

- **Weaknesses of online learning**

    According to Hadisi and Muna (2015), the weaknesses of online learning include:
    - A lack of interaction between teachers and students, as well as between students themselves, resulting in delays in the formation of social and emotional values during the teaching and learning process.
    - A proclivity to ignore academic or social aspects while encouraging the growth of business aspects.
    - The learning and teaching process is more akin to training than education.
    - Students who lack high levels of learning motivation are more likely to fail.
    - Not every location has internet access (It is also related to problems with the availability of electricity, telephone, or computers).

    According to Seno and Zainal (2019), the shortcomings of online learning include:
    - The online learning platform still requires more extensive instructions.
    - The material provided is not extensive and is presented in unfamiliar language so it is troublesome in learning it.
    - There is an unscheduled submission of tasks and the absence of direct or face-to-face supervision to accomplish tasks which makes the submission of tasks delayed.
    - Learning material becomes less understandable when learning is not supported by an explanation from the teacher directly.

Meanwhile, according to Munir in Sari (2015), the shortcomings of online learning are:

- The use of online learning as distance learning makes students and teachers physically separated, as well as between students from one another, which results in no direct interaction between teachers and students. This lack of interaction is feared to hinder the formation of attitudes, values, morals, or social in the learning process so that it cannot be applied in everyday life.
- Technology is an important part of education, but if it focuses more on the technological aspect and not on the educational aspect then there is a tendency to pay more attention to technical aspects or business/commercial aspects and ignore educational aspects to change the academic abilities, behavior, attitudes, social or skills of participants.
- The learning process tends towards training and education which emphasize the knowledge or psychomotor aspects and pay less attention to the affective aspects.
- Teachers are required to know and master ICT-based learning strategies, methods or techniques. If you are not able to master, then the transfer of knowledge or information will be hampered and can even thwart the learning process.
- The online learning process requires students to learn independently without relying on the teacher. If students are not able to learn

independently and their motivation to learn is low, then it will be difficult to achieve learning goals.

- Technical weakness such as being unable to get internet access and inability to own computer makes students hardly to join online learning.
- The legal software problems will appear if students do not use open-source software.
- Lack of skills to operate computers and the internet more optimally.

From the explanation above, the advantages and disadvantages of online learning are facilitating the learning process, learning can be done anywhere, ease of access to materials, improving students' learning autonomy, and decreasing cost for online task submission compared to paper-based task. But there are also disadvantages of online learning, namely the absence of supervision because learning is carried out virtually. In addition, if students are not able to study independently and their learning motivation is low, it will be difficult for them to achieve learning objectives. Consequently, they will experience lack of understanding of the material.

3. **Online Learning Media**

Education is one aspect that is used as a forum to shape the children'scharacter. Therefore, in the educational process, an educator must be able to master various learning media because conditions and science are always changing. Moreover, at the current condition when the Covid-19 pandemic attacks the world, various sectors are

undergoing changes and are required to adapt to the circumstances. Educational institution as one of influenced sector must also transform and adjust its' learning during the Covid-19 pandemic by employing most appropriate media.

Media are one of the tools used to aid in the learning process. The media used have a large impact on whether or not the learning process succeeds or fails. Anything that can be used to transmit messages from sender to receiver in order to stimulate students' thoughts, feelings, concerns, and interests in such a way that the learning process occurs is referred to as media. Online learning media can be defined as media that are equipped with controllers that can be operated by the teacher or students (user), allowing the user to control and access what they require, such as downloading sources for Tenses material in English lessons.

4. Methods in Online Learning

Every learning experience, including online learning, has a goal that serves as the foundation for choosing models, methods, and learning media. In this study, a learning method is a method used for Online Learning during the Covid-19 pandemic period to achieve specific learning goals. The learning method is also defined as the method used to put plans in place in the form of real and practical activities to achieve learning objectives. The goal of learning is to provide direction as to where and why this learning will be carried out. With all of the advantages and disadvantages of online learning, the implementation of learning must still be guided by the learning objectives.

The methods listed below can be used in online learning during the Covid-19 pandemic.

a. Lecturing method

The lecturing method can be interpreted as a way of presenting lessons through oral narrative or direct explanations to a group of students (Sanjaya, 2020). This method is fairly easy to implement. In this case, the teacher has more control over the class. This method can be done by providing an explanation to the learner. To make it more interesting, the teacher can make an explanation of the material in the form of a learning video. The advantages of learning videos made by teachers will make it easier for students to understand the subject matter because it can be repeated if there is material that has not been understood.

b. Discussion method

The discussion method is a teaching method in which students are given a problem to discuss and solve together, which can be a statement or a difficult question (Nabila, 2020). This method is very good to improvestudents' critical thinking and encourage them to express ideas and thoughts. Discussions can be held via live video conference using zoom, goggle meet, WebEx and other video conferencing applications. Discussions can also be carried out by reciprocating comments on Google Classroom, comments given in written form.

c. Demonstration method

The demonstration method is carried out by demonstrating items, events, rules and sequences of carrying out activities, either directly or through the use

of teaching media that are relevant to the subject or material being presented (Kusmawati, 2014; Samta& Mulyani, 2021). This method is used to demonstrate events or sequences of events. Demonstrations can be carried out directly through video conferencing applications or with the help of video media. In this case the teacher can make a video of them explaining something.

d. Recitation method

The recitation method is one of the methods in the teaching and learning process in which the teacher gives a certain task and the students do it, then the task is accounted for by the teacher (Nabila, 2020). This method requires students to create a resume in their own words. The material can be in the form of readings or learning videos. After reading or watching, learners should create their own resume. This can improve learners' responsibility and confidencetoward their work. However, the weakness of online learning is that the teacher cannot control the work that the learner creates.

e. Problem solving method

This method equips students with problem solving skill by emphasizing the resolution of a problem logically (Gulo, 2002). Learners can be triggeredby a question and then asked to find a solution. This method trains students to think critically, independently, and creatively.

f. Discovery method

This method is used to develop a method of active learning by allowing students to discover for themselves, investigate issues on their own, and then

the results obtained will be faithful and long-lasting in memory. Students can also learn to think analytically and solve problems on their own through discovery learning (Hosnan, 2014). This method requires students to find their own study material. Furthermore, this method fosters students' active participation in the learning process.

g. Inquiry method

The inquiry method is a set of learning activities that maximizes all students' abilities to search for and investigate Online Learning in the Covid-19 pandemic period in a systematic, critical, logical, and analytical manner, allowing them to confidently formulate their own conclusions (Gulo, 2002). The teacher explains the material, and then the students are asked a series of questions about the material being discussed. Teachers can assist students in answering difficult-to-understand questions. The students write a summary of the material at the end of the lesson.

5. E-learning for Online Learning

The use of e-learning does not mean changing learning methods in the classroom, but rather enriching the world of education by discovering new, more contemporary and modern methods. According to Cisco (2001), the philosophy of e-learning is as follows: (1) e-learning is a medium for delivering information, educational communication, and online training; (2) e-learning provides a set of properties that can enrich the value of conventional learning; and (3) e-learning does not mean replacing traditional learning processes in the classroom, but rather strengthening the learning process

by adding learning models through enrichment and development of information technology.According to (Clark &Mayer in Steen, 2008) states that e-learning has the characteristics of providing content relevant to learning, using instructional methods such as examples or exercises to help students learn, using various media to deliver learning material.

Today, e-learning provides many benefits for online learning. Firstly, it is related to the use of time. The time to learn is very flexible which enables students to access information related to the learning process anytime or when they are in a state of high enthusiasm for learning. Secondly, when students are in a comfortable place to study, they can also access e-learning at that time even though the place is far away. Thirdly, e-learning in online learning makes students easier to repeat to learn the material if there is material that they think is poorly understood. Moreover, the quality of the explanation is the same as the beginning, without the slightest lack. This benefit is good for students since at the time of learning they usually do not easily repeat the material with the same quality of explanation due to mood factors or conditions around the teacher. Fourthly, e-learning in online learning provides more cost-effective compared to ordinary learning that requires additional costs such as vehicles, pocket money, package books, and housing for students who live far from school. Especially during this pandemic, the economic sector has a significant impact on parents of students. So it is considered very appropriate to use e-learning to reduce the burden on parents to support their children education.

The benefits of e-learning in online learning are also explained by Rohmah (2016) which states that e-learning supports online learning by being more flexible in terms of time and place, freer in determining when to start, finish, and determine the material to be studied, cost-effective, material can be repeated at any time if it has not been understood without compromising the quality of the teaching. Also, it can be accessed at any time, and can store information related to lessons and data related to the learning process.

In fact, the great benefits that can be obtained from using e-learning are not only for participants, but also have a positive impact on learning resources, and the quality of graduates. The existed learning resources during the offlinelearningperiod force teachers to find new learning resources for online learning that are in line with the current digital era. Even forcing teachers to create their own learning resources based on information technology, which are used to be a new thing for educators in Indonesia lately.

For students, e-learning-based learning becomestheir opportunity to train themselves to be independent learners and learning by finding their own learning resources when they do not understand the explanation from the teacher. There are many platforms that provide learning online materials that are in accordance with the material in the national curriculum. Moreover, students can choose learning sources with explanations that make it easier for them to understand the material. With the independence of students to find supporting learning resources, then the quality of graduates can be further improved due to more diverse

and unlimited learning resources. This is in line with what was stated by Hartanto (2016) which revealed that the implementation of e-learning in education is expected to provide good benefits for the world of education, including: increased interaction of students with teachers and their peers, unlimited learning support learning resources, if e-learning is developed with the right provisions it will be effective in improving the quality of graduates, the formation of a learning community with a wide range of interactions that is not limited to places, the quality of teachers increases because they can find information and teaching materials more broadly and not limitedly.

There is a lot of information related to teaching materials and learning resources that can be updated with e-learning. At this time, improving the quality of teaching materials is required to be more updated because the development of knowledge and science is very fast. As stated by Rohmah (2016) that teachers will find it easier to update teaching materials in accordance with the demands of scientific developments that are always evolving and in accordance with the national curriculum. In addition, e-learning in online learning trains teachers to be willing to develop themselves by conducting research to find the right method in learning and increase their insight (Rohmah, 2016). So professional educators should always update their knowledge by doing and creating scientific works. Because scientific work is also one of the administrative requirements for educators in particular.

6. Achieving Success in Online Learning

In brief, the key to the successful implementation of online learning is shared into three stages (Slameto, 2010). The first stage is known as ICTSP (information communication technology strategic planning) which includes several factors, namely: 1) a strong intention to shift a paradigm of implementing conventional learning into e-learning, 2) strong support from political will, 3) a willingness to accept changes from internal stakeholders, 4) commitment to develop e-learning, 5) ICT management unit led by a CIO (Chief Information Officer) capable of being professional and acting strategically led by a CIO (Chief Information Officer).

The key factors for the success of stage two are: 1) the technological factor of the existence of ICT in institution offices, laboratories, and student lounges that are connected to high-speed internet, and the existence of web applications to convey university information, 2) HR factors and social organizations such as internal stakeholders have a high level of e-literacy and internet-literacy, are not ignorant, owna conducive environment in the implementation of online systems. Also, it also needsthe presence of human resources in the field of web design, graphics, web databases, network experts, and others, 3) ICT management organizational factors that consists of CIO, creative multimedia team, innovation management team, and information management team.

In another study, Andrianto et al. (2019) stated that in order for online learning to be carried out effectively, there are three things that need to be considered, namely:

a. Technology. Educators and students need good technology becauselearning is done remotely.
b. Characteristics of teachers or educators. This needs to be considered by every teacher so that teachers can convey their teaching materials well and can be accepted by students. So, it takes the creativity of teachers in the delivery of teaching materials so that they can be conveyed properly even though it is done remotely. Teachers must also understand their ability to operate technology as a teaching support.
c. Characteristics of students or learners. Students sometimes find it difficult to discipline themselves and sometimes do not have basic skills in understanding the subject matter. This will make it quite difficult for them to undergo online learning and difficult to adapt to the online learning model.

7. Online Learning Applications

There are many online learning applications that can be used by teachers and students or even education institution to implement teaching learning process during pandemic Covid-19 situation. The short explanations of the applications are as follows:

a. WhatsApp

The learning process during the pandemic is carried out online. The use of application in online learning is very important because learning application is a tool for teachers to deliver learning materials. One of the learning applications that can be used to carry out online learning is the WhatsApp application. WhatsApp messaging-based applications are considered easy because in these applications

there are photo and video features that make it easier for teachers and students to exchange messages to carry out the online learning process. The WhatsApp-based learning process is focused on utilizing several types of features that can be used. The features used in the WhatsApp application in the implementation of online learning are as follows:

- Group chat – to conduct a gathering forum between teachers and students
- Camera – to share pictures or videos containing materials or assignments
- Share documents – to share files in the form of documents
- Voice notes – to share voice messages
- Audio – to share sound

These features are part of the WhatsApp application which are often used in the online learning process. The most important feature for online class is the Group chat feature.This feature is considered a class that functions as a place for discussion, question and answer, and also to share learning materials every day. This group contains the cell phone numbers of parents or students who are already connected to the WhatsApp application. The second feature is a camera or image.This feature is used by teachers as a way to convey learning material in the form of images or videos to students. This feature is also used by students to send photos or videos of proof of attendance or the results of assignments given by the teacher in the WhatsApp group. The third is the document share feature.This feature is used by teachers to share files in the form of documents

containing subject matter such as in the form of word or PowerPoint. Fourth is the voice note feature or voice message.This feature is used as an alternative way by the teacher in delivering audio in the form of material. The fifth feature is audio.This feature is used by teachers to send files in the form of voices or songs that have been previously saved to students, such as songs or musical instruments.

b. Quizizz

Quizizz application is one of the applications used in the implementation of online learning. Quizizz is an application in the form of a game. The selection of this application as a learning medium that is integrated with material or evaluation questions is expected to make lessons more interesting and fun. Mulatsih (2020) stated that Quizizz allows students to compete each other and motivates students to learn so that learning outcomes can improve. Students use quizzes at the same time in class and see their live ranking on the leaderboard.

Students usually get their interest when they learn using this application. This is in line with the theory presented by Salsabila et al. (2020). It states that in the Quizizz application owns various features that make the Quizizz look more attractive such asteacher can add an image to the background of the question and adjust the question settings as desired. Both teacher and students can download the application for their gadget or just play it online.

c. Zoom

Zoom is a meeting with video and screen sharing app with up to 100 members and up to 1000 more that can join the app. This video conference application has duration of time when we conduct meetings with others. Nonetheless, this application is very helpful for those who want to have a discussion directly using a virtual space because it has a considerable space capacity in one meeting. Zoom is a video communication application that allows us to see people who are far away by turning on the camera we have when using this zoom platform for the learning process (Astini, 2020).

d. Google Classroom

Google Classroom technology is a tool used to facilitate and facilitate remote communication activities between teachers and students, especially in digital content management classes (Hapsari, 2019). Google Classroom can be used on several devices such as smartphones and laptops that are completed with an internet connection. There are other applications that can also be used in doing tasks such as Workspace, Duolingo, and TED. The use of this search device aims to facilitate the course of learning and delivery of tasks. Google Classroom application is a communication technology commonly used in the learning process. This technology has the ability to be used together with e-learning or online learning methods. All students who apply this learning get the same opportunity, as a means of learning together and receiving and reading the material listed in Google Classroom, then sending the task remotely so that they

can display the assessment of the task openly. Diva et al. (2021) also added that Google Classroom is considered to have a good influence because it can be used as a new option in developing science. Google Classroom users can maximize internet devices and their facilities to choose which sources can be used through the help of various sources of unlimited information. Applying this technology can give encouragement to master so that learning takes place properly.

e. **Google Meet**

Google meet is a video conferencing application that is used for the online meeting process created and developed by Google. Google meet allows users to hold meetings on the go, conduct virtual teaching and learning activities and training classes, remote interviews, and much more. Google meet has a feature that allows you to make high-quality video calls for groups of up to 250 people. In addition, in the current pandemic conditions, more and more people are starting to use the Google Meet application to work or study from home. Therefore, Google Meet is currently one of the fastest growing Google features. The number of daily users of the Google Meet application increased by 25 times in the period of January to March 2020. Google Meet is the latest and more powerful version compared to its predecessor Hangouts because Google Meet has features that can be displayed on web, Android, and iOS applications. In addition, the Google Meet application has a unique and functional interface with a light and fast size, prioritizing more efficient management so that it is

easy for all users to use and follow. Google meet can be used as one of the learning media that can support student learning processes that take place from home while teaching students to take advantage of technology from an early age so that they can provide meaningful experiences for these students. The use of Google meet as a learning medium aims to create listening and speaking skills in using the Google meet application as a learning medium

f. **Webex**

This application is a collaboration technology that can be used as a virtual face-to-face medium between teachers and students. Teachers will teach as usual through videos, including sharing presentation content and interacting with digital whiteboards via computer/smartphone screens.

g. **Loom**

Loom is a screen recorder application or application to record all the activities we do on a computer or laptop screen and can be uploaded directly to a link. The results of the video can be downloaded or distributed via email and social media. Loom makes it very easy for users who want to present their business or when presenting their work during meetings.

h. **TikTok**

TikTok is a video-based application that became widely known to the public in 2017. Syafri and Kulsum (2021) state that the TikTok application is an alternative and attractive application for learning because it can activate the audio and visual mental models of students. This is understandable because

TikTok is an application that displays moving images that can be created by students or teachers themselves.

i. **Duolingo**

This is a free language learning app developed by Luis von Ahn and Severin Hackers. This application is available in Android, iOS, and Windows Phone versions in addition to the web version. As of November 2016, this application offered 66 different language courses in 23 languages, with 22 more courses in the works. This application has already attracted over 120 million users from all over the world. English courses for Indonesian users are already available, with 1.39 million users taking advantage of them. Indonesian language courses for English speakers, on the other hand, are still in the early stages of development.

j. **Edmodo**

Evenddy and Hamer in Fadloli and Ersanghono (2019) stated that Edmodo is a personal social learning platform for teachers and students. Furthermore, according to Fadloli and Ersanghono (2019), Edmodo is a privacy application for micro-blogging services that can create effective learning experiences and allows students to exchange information or feedback either collectively, individually, or in response. Edmodo is very easy to be used by teachers in carrying out the learning process because it provides some of the best and practical features, so that students and teachers are always connected and able to manage student activities easily.

According to Buescher in Sukardi (2018), Edmodo can overcome challenges in online learning because it is appropriate for all grade levels and curricula and provides the means to acquire the necessary skills. Furthermore, Edmodo was created using the principles of group-based classroom management as well as social media. Edmodo can help teachers track student learning progress more easily. Materials and assignments are distributed online, making it easier for students and teachers. Furthermore, all grades and learning assignments assigned through Edmodo are automatically saved in the system and are easily accessible. According to Arifin and Ekayati (2019), Edmodo is a social media-based safe learning platform for teachers, students, and schools. Edmodo provides a safe and easy way for learning in the classroom, and it even connects and collaborates with parents.

It can be concluded that Edmodo is an online-based learning application that can assist students in their learning process at any time and from any location. Edmodo is able to provide convenience, means to gain skills, and effective learning experiences during the learning process. Furthermore, there is group-based class management, which allows students to exchange information or feedback collectively, individually, or in response. In addition, Edmodo has features like Facebook that can make it easier for students to access learning through Edmodo.

According to kompas.com, there are at least 12 online learning platforms in Indonesia that are ready for use by students throughout the country. This is to

assist students who are taking part in distance learning related to government policies as a result of the Covid-19 pandemic outbreak. As a result, the Indonesian Ministry of Education and Culture (Kemendikbud) collaborates on various platforms, including the provision of online learning applications. Following the launch of the Indonesian Ministry of Education and Culture's official website, here are 12 platforms or applications that students can use to study at home. This application is a collaborative approach to dealing with the Covid-19 pandemic.

k. **Rumah Belajar**

"Rumah Belajar" is an online learning application created by the Ministry of Education and Culture to provide alternative learning resources through the use of technology. Learning Resources, Virtual Laboratories, Digital Classes, Question Banks, Electronic School Books, Cultural Maps, Language and Literature Works, and other features are available for free use by teachers and students.

l. **Meja Kita**

The material is presented thematically in this application, which also includes a discussion forum for questions and answers. Meja Kita offers free and comprehensive learning materials from elementary to high school, as well as thousands of notes uploaded by students in student communities across Indonesia. Meja Kita enables students who must study at home to discuss homework, questions, and assignments, as well as share notes and other learning materials.

m. Icando

ICANDO is a children's education application with a learning program that is in accordance with the Revised 2013 Curriculum and has hundreds of minigames that will increase children's learning motivation at the PAUD level.

n. IndonesiaX

IndonesiaX has experience in supporting the provision of access to learning for the community through quality courses delivered by the Indonesia's best instructors. Since its launch on 17 August 2015, IndonesiaX is committed to increase the Indonesia's intelligence through the provision of free online courses to reduce disparities or educational gaps in this country.

o. Google for Education

To support online learning, particularly those implemented by various regions in response to the Covid-19 pandemic, Google For Education provides services using chromebooks and G-Suite that allow virtual learning even with limited internet connectivity.

p. Microsoft Office 365

Microsoft offers free Office 365 services to teachers and students, rather than a trial version. Office 365, including Word, Excel, PowerPoint, OneNote, and Microsoft Teams, as well as other classroom features, can be accessed and updated in real time. Teachers and students only need to create an email account using the school domain.

q. **Quipper School**

Quipper School provides an innovative approach to the teaching and learning process. This simple platform assists teachers in more effectively managing assignments and homework. As a result, teachers can more easily identify students' strengths and weaknesses.

r. **Ruangguru**

Ruangguru is a technology-based learning service that offers virtual classroom services, online exam platforms, subscription learning videos, private tutoring marketplaces, and other educational content via the web and the Ruangguru application.

s. **Sekolahmu**

In the Unlimited Learning program, Sekolahmu provides live streaming of subjects with the levels provided. Sekolahmu fosters competence in all and every child at various ages and levels. Sekolahmu has become a collaboration node for hundreds of schools and organizations that have been curated to work, providing curriculum programs that suit your needs.

t. **Zenius**

Zenius has an Independent Learning program at Home #BisaBareng by providing tens of thousands of videos of complete learning materials for elementary, junior high, high school levels for the KTSP curriculum, 2013 Curriculum, Revised 2013 Curriculum. In addition, students can access complete learning materials for preparation for UNBK, UTBK, SPMB STAN, SIMAK UI, and UTUL UGM.

u. Cisco Webex

Teachers will teach as usual through video including sharing presentation content and interacting with digital whiteboards via computer/smartphone screens. In addition, Cisco Webex also provides messaging-based digital classrooms, so teachers and students can continue to discuss and share material through the group chat feature in Cisco Webex Teams that is provided.

8. Online Learning for Education Transformation

The Pandemic Covid-19, which causes a shift from offline to online learning via technology, may be viewed as an opportunity to transform Indonesian education. There are several steps that can be taken together to improve our educational system, particularly with regard to online learning.

To begin, all teachers must be able to teach remotely, which, incidentally, must involve the use of technology. It is critical to improve educators' ability to use distance learning applications at all levels. Indeed, the number is very large; ensuring that approximately 3 million teachers in Indonesia have adequate competence in utilizing technology is not an easy task. Level 2 teachers must immediately demonstrate minimum ICT competence, including the ability to conduct video conferencing and create online teaching materials. Based on UNESCO's Teacher ICT Competencies Framework, Level 2 is an ideal grouping of ICT competencies for teachers. The highest level is level 4, which allows the teacher to become a trainer for other teachers. If a teacher's competence level is level 2, he or she will be able to prepare a learning system, syllabus,

and learning methods using digital or online learning patterns.

Second, the application of technology is not arbitrary. It takes specialized knowledge to use technology as a tool to achieve educational goals, namely Educational Technology. Online learning does not simply replace face-to-face instruction with digital applications and a slew of tasks. Educational technology creates effective online learning systems while keeping specific educational goals in mind. The principles of using technology that must be a reference for teachers in using technology are the ability to present difficult and rare facts into the classroom, providing illustrations of natural and scientific phenomena, providing space for students to explore, facilitating interaction and collaboration between students-teachers and students-students, and providing individual never-ending services. However, very few teachers are aware of the aforementioned principles. This necessitates more innovation and the pursuit of learning breakthroughs by relevant stakeholders, particularly Learning Technology Developers, in times of emergency, such as the current Covid-19 situation.

Third, even if only as a supplement, online learning patterns must be incorporated into all learning. The point is that teachers gradually become accustomed to teaching online. Most educators were taken aback by the sudden implementation of online learning. In the future, policy must be changed to allow for the implementation of online learning in all subjects. Teachers must implement technology-based learning in accordance with the technology's capacity and availability.

Fourth, teachers must have access to online learning resources. A laptop and video conferencing support tools are the bare minimum of ICT equipment required for teachers. The existence of minimum equipment that teachers must own must be seriously considered in collaboration with the district/city, provincial, and central governments, as well as parents for community-organized schools. Many fintechs are involved in assisting with the purchase of technology equipment for students, teachers, and schools.

Fifth, affirmative technology policies for underserved areas must bridge the digital infrastructure gap between large cities and regions. Internet access must be expanded, as well as its bandwidth capacity. The Indonesian government has completed the Palapa Ring communication infrastructure, which was inaugurated by President Joko Widodo at the end of 2019. Nonetheless, the range of access must be broadened so that as many schools, educators, and students as possible benefit.

Pandemic Covid-19 shocked many countries around the world, forcing them to make adjustments to adapt to the situation, including the educational system. Indonesia, as one of the affected countries, should consider the five issues listed above in order to better transition from the depths of the crisis to a better educational situation. Indonesia's education system must be able to enter a new era in which teachers, students, educational institutions, and the educational system are prepared to foster creativity, establish innovation, and use technology to accelerate as well as hinder science.

9. **Role of Educational Technology for Learning during Pandemic Covid-19**

Based on the understanding that has been discussed previously, educational technology provides benefits in supporting the success of learning. The role of educational technology includes the following: (1) educational technology as a support tool for knowledge design, (2) educational technology as a means of information to find out knowledge that supports learners, (3) educational technology as a medium in facilitating learners in presenting arguments, (4) educational technology is capable of increasing the effectiveness and efficiency of the learning process, and (5) educational technology as a tool to achieve educational goals.

Furthermore, the role of educational technology in the learning process becomes critical, particularly during pandemics such as the one we are experiencing today. Because of the emergence of Covid-19, all activities, including teaching and learning, must be carried out at home. Learning activities that were previously carried out face-to-face by educators and learners are now carried out online as part of efforts to break the chain of transmission of the Covid-19.

That way technology becomes the most important part in helping the online learning process. In connection with this, Buselicet al in (Latip, 2020) assert that the core of online learning is how to choose the right learning method with the help of technology that intends to convey learning materials to learners even though it does not meet face-to-face as conventional learning. In other words, technology acts as a medium of interaction and transfer of information related to learning in the implementation of online learning.

As software, technology plays a big role in learning, especially in the current Covid-19 pandemic situation. Technology provides convenience to educators and learners in conducting distance learning. Various platforms are provided with the intention of facilitating the implementation of distance learning, including making it easier for educators to conduct assessments of learners even though they are not done face-to-face directly, by utilizing various platforms such as, Google document as a medium in conducting online discussion forums, submitting exams through Google form, and procuring quizzes through websites or applications. Technology also helps learners in obtaining subject matter that may not be obtained during distance learning by accessing various websites and applications such as, edutafsi.com, wolframalpha.com, slide share, inspigo and many more. In addition, technology also plays a role in increasing the creativity of educators and learners, educators can innovate in the delivery of learning materials by utilizing various social media sites such as Facebook, Instagram, YouTube, and so on. Similar to educators, learners can take advantages of various social media sites in fulfilling the given tasks. In this case, technology can provide benefits in supporting the success of online learning in the midst of a pandemic like today.

The role of internet technology in online learning is influenced not only by the role of internet technology, but also by the quality of human resources. Internet technology will have little impact if the human operator or user lacks knowledge and skills in the use and management of technology. As a result, understanding technology plays a critical role in the success of online learning. The role of

internet technology in online learning is critical, because learning done online can be hampered without it. Internet technology also has an impact on students' or students' search for learning materials that they do not understand. Many advantages can be gained from using Internet technology to support learning activities.

10. Online Learning Challenges during Pandemic Covid-19
a. Slow internet connection

A slow internet network is one of the most common issues that many students and teachers face. In fact, because Zoom, Google Meet, Skype, and other applications are used to attend video conferences, online learning necessitates a reasonably strong internet connection. These applications for attending video conferences necessitate a strong internet connection so that the learning process is not hampered by video that abruptly stops or sound that is interrupted. Technical issues, such as intermittent sound and video, make learning ineffective and students unable to absorb the information conveyed by the teacher as a whole. In fact, due to the limited availability of internet network access, Indonesia ranks near the bottom of the OECD countries. This presents a challenge for the Ministry of Education in terms of maximizing existing potential.

b. Unaffordable internet price

In addition to a very slow internet network, particularly for those in remote areas or outside of Java, the next challenge and impediment to online learning is the cost of internet quota, which is prohibitively expensive for the majority of people. Furthermore,

these expensive internet packages are frequently limited to a certain amount of quota, which is clearly insufficient for students' needs to conduct video conferences with their teachers. As we all know, the quota required for video conferencing is enormous. Meanwhile, the average price of internet packages from Indonesian providers is quite high, especially when compared to the community's average income. Furthermore, the internet package can only be used by one person for one device, not by the entire family.

c. **Unaided by Gadgets**

Many students in Indonesia still do not have access to computers or smartphones. Students from lower-middle-class families are more likely to experience this. Sometimes the family's only telecommunication device is a simple cellphone with no internet access. This condition results in unequal access to online learning for all Indonesian students. Students from rural and remote areas are disproportionately affected by this lack of access to internet-connected devices.

d. **Focus distraction at home**

The main distinction between studying at school or college and studying at home is the level of distraction that students face. When students study in the classroom, the environment has been designed to support the learning process and ensure that it runs smoothly. This is distinct from the teaching and learning that occurs at home. Not all students have the same home environment to support their learning. Many students do not have access to a quiet, quiet, well-lit, and comfortable study space. Furthermore, activities in the

home environment frequently cause a great deal of distraction for students. Distractions range from sound distractions to visual distractions and many others that cause students to lose focus while studying.

e. **Unfamiliarity with technology**

People are only familiar with the face-to-face learning process so far. Because online learning is still relatively uncommon in Indonesia, the shift from a face-to-face learning system to an online learning system requires many parties to quickly adapt to digital technology. The application of digital technology that must be studied begins with hardware and progresses to software or applications. Many parties, from teachers to students, do not fully comprehend how to use certain features of software, resulting in poor learning outcomes.

f. **Interaction barrier**

Although this does not always occur, the online teaching and learning process generally causes the learning process to be non-interactive. Many students are perplexed by a material but find it difficult to approach the teacher. This is sometimes caused by teachers who only deliver material in one direction and do not allow students to ask questions. Furthermore, in some cases, teachers do not hold video conferences and instead provide students with written materials and video explanations. This makes it difficult for students to understand and question the teacher about specific material. As a result, the teaching and learning process for students becomes ineffective.

g. **Failing to focus**

Many students experiment when learning online because they believe they are not being watched directly by the teacher. It is also difficult for teachers to keep track of their students' progress. As a result, effective collaboration between teachers and parents is required (Cahyani et al., 2020).

11. **Strategic Plans for Minimizing the Challenges**

In order to overcome the obstacles that arise in online learning, educational institutions have taken several strategic steps including (a) increasing teachers' capacity related to mastering digital technology. Educational institutions continue to upgrade teacher capabilities related to skills in developing media and learning content to improve the implementation of online learning during the Covid-19 pandemic by encouraging teachers to maximize the use of Microsoft Teams, (b) the use of online learning media that is more varied and interactive to reduce students' boredom in learning. Educational institutions provide assistance in managing learning to make it more interesting and fun by using media that can support online learning, either in the form of learning videos or through live streaming with platforms that have been provided by the education institution. Next (c) strive for material to be delivered to students in the previous day's learning, this material is given to students through online-based applications used by teachers, (d) involve parents intensively in communication and coordination to help supervise and assist student learning. This is part of optimizing the role of the three educational centers as an alternative solution in solving online learning problems

(Ceka & Murati, 2016; Herliandry, et al., 2020). In addition, Sapungan & Sapungan (2014) also explain that the role of parents is very important in efforts to maximize the moral development, attitudes, and academic achievement of students at educational institution.

The implementation of online learning cannot be separated from the role of parents in overseeing the learning process of students from home, considering that the age of learners in various level of education, the younger learners need encouragement from the learning environment including parents and teachers to grow their learning independence. With online learning through online learning software, the educational institution hopes to ensure that learning can continue in the midst of existing limitations. In addition, in order to monitor the learning process of students, the educational institution has also regularly communicated with parents. This aims to provide an understanding as well as being part of optimizing the role of parents to improve student learning achievement from home, so that the support and cooperation between education institutions, teachers, and parents of students in assisting children to study at home can support the success of online learning at educational institution.

12. Educational Technology Issues during the Covid-19 Pandemic

Technology is something that humans create in order to meet human needs and improve human quality. While educational technology is here to help with development in education, some things in our daily lives remain ambiguous. The majority of media used, particularly during the current pandemic, is internet access

and smartphone use. Several perspectives are presented in its use of educational technology. First, educational technology can make it easier to obtain information and convey material, ensuring that distance learning activities are not hindered by special obstacles. However, there are still some obstacles that occur in some schools, teachers, and students when it comes to the distribution or delivery of learning. During the current pandemic, the media used is internet-based, but many complain that the internet network is difficult to access, that students have limited tools, and that some object to the costs of purchasing data packages. According to Salsabila, et al. (2020), the use of technology as a learning medium, such as laptops and gadgets, has not been introduced evenly.

Second, during the pandemic, educational technology creates a very broad scope, which is convenient for all parties, both teachers and students. We can embrace the diversity and breadth of scope by utilizing educational technology. Starting with how learning is delivered, the subject matter delivered, the smoothness of delivery, and making it easier for students to understand, accept, and access learning. However, some areas are still impeded from carrying out their learning during the pandemic. Problems that frequently arise include a lack of teacher creativity or mastery of the media that will be used during a pandemic.

Third, educational technology benefits education actors, particularly educators. Educational technology allows educators to innovate in order to improve the learning process.

Fourth, technology has the potential to replace teachers. Even though educational technology can be valuable when used well, creatively, and innovatively, it can also make it more difficult for students to understand the learning delivered. It is claimed that technology can replace teachers, owing to the use of permissible learning media such as the internet. The internet can make it easier for students to find information, and it also provides students with easy access to a variety of information.

13. Impacts of Educational Technology to Learning during Pandemic Covid-19

The development of educational technology nowadays, provides numerous experiences for teachers and students in the learning process. Discussing the impacts of educational technology during the pandemic Covid-19, the impacts are, first, the creation of various learning platforms. This makes easiness for teachers and students in undergoing the distance learning process. The presence of a platform that can be used to provide new knowledge and experience to students regarding technological developments, whether it's an application, web/blog, video, podcast or something else. The existence of learning platforms such as the teacher's room, Zenius, etc. can be a bridge for students to learn. Make it easier for them to understand the learning that is done without face to face.

Second, educational technology makes it easier for students to find learning resources. Looking at the learning media used during this pandemic, students are more flexible in finding learning resources. Using the internet and available media, students can access the learning resources

they need. However, if the internet is not used properly, the worst possibility is that students can access things that are not needed or damage morale. Third, it makes easier for teachers to deliver learning materials to participants. With the existence of educational technology, learning is carried out more freely without having to meet face to face.

Conclusion

The present study was aimed at knowing the research variables including the implementation of online mode in learning, the use of technology in the paradigm of educational technology, and their relation with the language learning during pandemic Covid-19. Therefore, it is concluded that pandemic Covid-19 creates challenges to education; technology is not separable from today education due to the development of era, educational technology provides benefits for learning, some strategic plans were needed to minimize the challenges, technology plays pivotal role for language learning, and technology shows significances for language learning.

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